O.T. 1930 ORIGINAL NOS. 6, 10 & 11,

Office Supreme Court, U. S.
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IN THE

Supreme Court of the United States

STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and STATE OF PENNSYLVANIA,
Complainants,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO,
Defendants.
STATE OF MISSOURI, STATE OF KENTUCKY, STATE OF TENNESSEE, STATE OF LOUISIANA, STATE OF MISSISSIPPI, and STATE OF ARKANSAS,
Intervening Defendants.

No. [redacted] Original. **6**

STATE OF MICHIGAN,
Complainant,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al.,
Defendants.

No. [redacted] Original. **10**

STATE OF NEW YORK,
Complainant,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al.,
Defendants.

No. [redacted] Original. **11**

SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JULY 1, 1930, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

BUNTHORP-WARREN PRINTING COMPANY, CHICAGO.

IN THE

Supreme Court of the United States

NOS. 7, 11 AND 12, ORIGINAL.

OCTOBER TERM, 1929.

STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and STATE OF PENNSYLVANIA, *Complainants,* *vs.* STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, *Defendants.* STATE OF MISSOURI, STATE OF KENTUCKY, STATE OF TENNESSEE, STATE OF LOUISIANA, STATE OF MISSISSIPPI, and STATE OF ARKANSAS, *Intervening Defendants.*	No. 7, Original.
STATE OF MICHIGAN, *Complainant,* *vs.* STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., *Defendants.*	No. 11, Original.
STATE OF NEW YORK, *Complainant,* *vs.* STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., *Defendants.*	No. 12, Original.

SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JULY 1, 1930, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

Pursuant to provisions of Paragraph numbered 5 of the Decree in the above entitled causes, entered on April 21, 1930, the Defendant, The Sanitary District of Chicago, hereby makes its semi-annual report of July 1, 1930, as follows:

CONSTRUCTION PROGRAM.

The sewage treatment construction program proposed by the engineering witnesses for The Sanitary District of Chicago in the case of Wisconsin, *et al.* v. The Sanitary District of Chicago, *et al.*, as outlined in Defendants' Exhibits 1385, 1386 and 1387 (Record pages 9863, 9867 and 9882) was as follows:

DEFENDANTS' EXHIBIT 1385.

CONTRACTS COMPLETED DECEMBER 31, 1928.

Des Plaines River Project	$ 3,965,319.53	
Calumet Project	19,157,922.02	
North Side Project	33,487,522.54	
West Side Project	6,242,060.61	
Miscellaneous Plants and Sewers	502,598.06	$ 63,355,422.76

DEFENDANTS' EXHIBIT 1386.

WORKS UNDER CONTRACT DECEMBER 31, 1928.

Expenditures for portions completed:		
North Side Project	$ 1,313,988.89	
West Side Project	17,248,191.18	$ 18,562,180.07
TOTAL COST COMPLETED WORKS DECEMBER 31, 1928		$ 81,917,602.83
Balance required to complete contracts:		
North Side Project	$ 2,270,000.00	
West Side Project	9,203,683.00	$ 11,473,683.00

DEFENDANTS' EXHIBIT 1387.

FUTURE WORK, DECEMBER 31, 1928.

Des Plaines River Project	$ 4,255,000.00	
Calumet Project	20,492,000.00	
North Side Project	4,783,000.00	
West Side Project	61,819,000.00	
Southwest Side Project	70,817,000.00	
Miscellaneous Plants and Sewers	10,000,000.00	
Chicago River Controlling Works	4,000,000.00	$176,166,000.00
TOTAL ESTIMATED COST OF SEWAGE TREATMENT CONSTRUCTION AFTER DECEMBER 31, 1928		$187,639,683.00
GRAND TOTAL COMPLETED WORKS AND PROPOSED CONSTRUCTION		$269,557,285.83

The total amount of sewage treatment accomplished by The Sanitary District of Chicago up to December 31, 1928, as measured by expenditures (From Defendants' Exhibits 1385 and 1386) was as follows:

TABLE 1.

COMPLETED WORK UP TO DECEMBER 31, 1928.

Des Plaines River Project	$ 3,965,319.53	
Calumet Project	19,157,922.02	
North Side Project	34,801,511.43	
West Side Project	23,490,251.79	
Miscellaneous Plants and Sewers	502,598.00	$ 81,917,602.83

The total amount of construction of sewage treatment works proposed by The Sanitary District of Chicago after December 31, 1928, as measured by estimated expenditures (From Defendants' Exhibits 1386 and 1387) was as follows:

TABLE 2.

FUTURE WORK AFTER DECEMBER 31, 1928.

Des Plaines River Project	$ 4,255,000.00	
Calumet Project	20,492,000.00	
North Side Project	7,053,000.00	
West Side Project	71,022,683.00	
Southwest Side Project	70,817,000.00	
Miscellaneous Plants and Sewers	10,000,000.00	
Chicago River Controlling Works	4,000,000.00	$187,639,683.00

The work accomplished by The Sanitary District of Chicago in the construction of sewage treatment works during the period from December 31, 1928 to April 21, 1930 (the date of the decree of the Supreme Court of the United States) as measured by construction expenditures amounted to $7,895,244.42. This work made the status of the sewage treatment construction program, on the date of the order of the Court, as follows:

TABLE 3.

COMPLETED WORK AS OF APRIL 21, 1930.

Des Plaines River Project	$ 4,005,031.82	
Calumet Project	19,366,410.86	
North Side Project	35,825,822.85	
West Side Project	29,851,207.99	
Southwest Side Project	190,304.53	
Miscellaneous Plants and Sewers	520,655.38	
Chicago River Controlling Works	53,413.82	$ 89,812,847.25

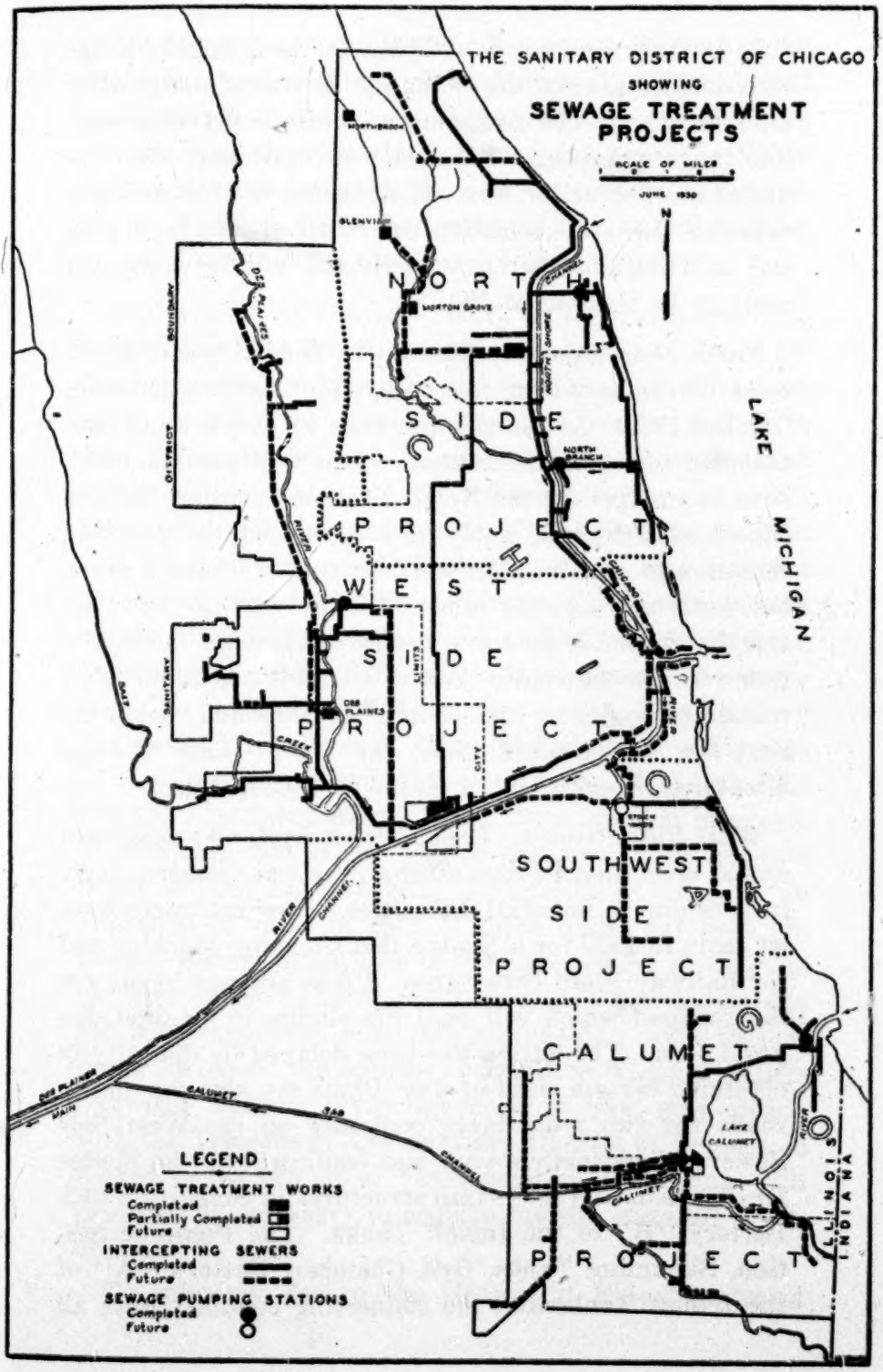
TABLE 4.

FUTURE WORK AFTER APRIL 21, 1930.

Des Plaines River Project	$ 4,215,287.71	
Calumet Project	20,283,511.16	
North Side Project	6,028,688.58	
West Side Project	64,661,726.80	
Southwest Side Project	70,626,695.47	
Miscellaneous Plants and Sewers	9,981,942.68	
Chicago River Controlling Works	3,946,586.18	$179,744,438.58

The construction work outlined in Table 4 includes all work which may be required to conform to the decree of the Supreme Court of April 21, 1930. In the interim of forty days between the date of the decree and June 1, 1930, the date for which construction summaries are made for this report, work was prosecuted diligently on the Calumet, the North Side, the West Side and the Southwest Side Projects and some small items were accomplished on the DesPlaines River Project and on Miscellaneous Plants and Sewers.

Calumet Project. The future work involved in this project includes the enlargement of the present sedimentation plant to provide for about twice the area originally contemplated, taking in the sewage of certain suburban towns to the south for which individual treatment plants had formerly been proposed. It also includes the extension of the whole plant to provide complete sewage treatment for the whole area. Additional land is required for the enlargement. An Ordinance laying out a proposed site, containing approximately 220 acres immediately south of the present Calumet Plant, was passed by the Board of Trustees of The Sanitary District of Chicago on December 26, 1929. Efforts to purchase this property by agreement having proved fruitless, a suit to acquire this site by condemnation was filed on May 22, 1930 and the case is set for hearing in the


THE SANITARY DISTRICT OF CHICAGO
SHOWING
SEWAGE TREATMENT PROJECTS
SCALE OF MILES
JUNE 1930
N
NORTH SIDE PROJECT
WEST SIDE PROJECT
SOUTHWEST SIDE PROJECT
CALUMET PROJECT
LAKE MICHIGAN
DES PLAINES RIVER
CHICAGO RIVER
NORTH BRANCH
CHICAGO RIVER
MAIN
CHANNEL
CALUMET
SAG
CHANNEL
LAKE CALUMET
CALUMET RIVER
DES PLAINES RIVER
DISTRICT BOUNDARY
SANITARY
CANAL
LEGEND
SEWAGE TREATMENT WORKS
Completed
Partially Completed
Future
INTERCEPTING SEWERS
Completed
Future
SEWAGE PUMPING STATIONS
Completed
Future

July 1930 term of court. Within the past month, it has been decided to treat the sewage by activated sludge after sedimentation. The designing of the Imhoff tanks, aeration tanks, pumping station, blower house and other appurtenances is under way. If financing is arranged it is expected that some contracts can be advertised before the end of 1930 and that practically all will be ready for contract by the end of 1931.

North Side Project. The North Side Sewage Treatment Works have been operating under partial load since October 1928. At the present time all the sewage tributary to this plant is treated except that portion which is to be pumped by the North Branch Pumping Station. Financial difficulties early in 1929 caused the practical cessation of construction work on this pumping station, but work was actively resumed in the fall of that year and the station is now practically completed. A connection with the Lawrence Avenue Conduit and other work remain to be done. This should be completed within the next few weeks, after which the North Side Sewage Treatment Works will be placed in full operation.

West Side Project. Construction work was continued on the West Side Project after a practical cessation early in 1929 due to financial difficulties. New contracts were let early in 1930 for a Sludge Bed Cleaning Machine and for Railway Plant Structures. Plans are now ready for the railroad which will haul the sludge to its final disposal area. The letting has been delayed by difficulty in obtaining certain right-of-way. Plans are also practically ready for two more large contracts on the West Side Sewer. Construction work was continued on the Sludge Drying Beds and on certain structures in connection with Battery "B" of the Imhoff Tanks. The Pumping Station, Skimming Tanks, Grit Chamber, Battery "A" of the Imhoff Tanks and the connecting conduits were all

completed and sewage was first pumped through these works for testing purposes on March 17, 1930. Actual operation of the plant was begun on June 2, 1930 and sewage from the Salt Creek Sewer and from the Fifty-second Avenue Sewer area is now treated in Battery "A". Within a few weeks sufficient sewage will be flowing to utilize most of the capacity of this battery.

Southwest Side Project. Work on the Southwest Side Project has been directed to the acquisition of a site for the sewage treatment works and to gain access to various plants in the Stock Yards so that an accurate and up to date determination can be made of the character and volume of these wastes. An Ordinance laying out a proposed site, containing approximately 570 acres of land between Lavergne and Austin Avenues and between Fifty-first Street and the Drainage Canal, was passed by the Board of Trustees of the Sanitary District on December 26, 1929. This site is the same as the one referred to in the case of Wisconsin, *et al.* v. The Sanitary District of Chicago, *et al.* It is located on the south side of the Drainage Canal almost opposite the West Side Sewage Treatment Works. Some of the land has been subdivided and sold in city lots so that over 2400 separate tracts of land are involved. An opinion of title and an appraisal of value of each of these tracts has been obtained. Severe opposition to the acquirement of this site has been raised by local objectors and an alternative site has been suggested, some five and one-half miles further down the canal. An advisory committee, whose members represent various civic agencies, is now ccoperating with the Trustees of The Sanitary District of Chicago in regard to the two sites. Condemnation proceedings will probably be necessary to acquire the site specified in the ordinance.

To properly design the Southwest Side Treatment

Works, which are to treat the Stockyards and Packingtown wastes in addition to the domestic sewage in this area, it is essential that up-to-date accurate information be obtained of the character and volume of these trade wastes. Efforts to obtain access to the various packing plants in order to make the proper investigations having proved fruitless, the Board of Trustees of The Sanitary District of Chicago, on April 10, 1930, passed an Ordinance requiring all firms creating trade wastes emptying into the Drainage Canal to permit access to their plants and records so that such before mentioned investigations could be made. This Ordinance is in accordance with an amendment to the Sanitary District Act, passed in 1927, specifically giving the Sanitary District control over industrial wastes. Certain industries have refused to comply with the terms of this Ordinance and denied access to their plants. The Sanitary District of Chicago therefore, on April 30, 1930 filed an amended bill of complaint in the District Court of the United States, Northern District of Illinois, Eastern Division, supplementing a bill previously filed, seeking the enforcement of the above mentioned Ordinance. The time allowed these industries to answer this bill will expire on June 30, 1930. Meanwhile The Sanitary District of Chicago is proceeding with certain tests on the flow in the sewers leading from Packingtown and the Stock Yards in order to determine as accurately as possible under the circumstances the character and volume of most of these wastes.

Financial. The financial condition of The Sanitary District of Chicago is such that at the present time all funds for new construction work must be obtained from the sale of bonds. An amendment to the Sanitary District Act provided that after December 31, 1928 all bond issues for construction purposes should be submitted to a referendum of the voters of the District. The Illinois

General Assembly, by an amendment to the Sanitary District Act in 1929, authorized the issuing of $27,000,000 of bonds without referendum and at the present time $16,850,000 of this remains to be issued. Portions of two bond issues totaling $6,000,000 are being advertised for sale June 26, 1930 to cover the construction needs of the immediate future. The balance available will be required for construction work during the next twelve months. In order to carry out the sewage treatment construction program by the end of 1938 approximately $20,000,000 will be required each year. General elections in The Sanitary District of Chicago are held biennially. The defeat of a bond issue at any one election would seriously hamper the execution of this comprehensive program. The Trustees of The Sanitary District of Chicago, in an effort to avoid this contingency, passed a resolution May 15, 1930, requesting the Governor of Illinois to call a special session of the State Legislature to carefully consider the question of authorizing The Sanitary District of Chicago to issue, without a referendum, bonds for construction purposes to the amount of $20,000,000 per year for the next six years to enable it to carry out the program proposed to the Supreme Court. A special committee waited upon the Governor with this resolution and earnestly urged that he assist in obtaining this financial relief. The Governor refused to call a special session of the Legislature for this purpose.

The total work accomplished by The Sanitary District of Chicago in the construction of sewage treatment works during the period from April 21, 1930 to June 1, 1930 (the date of the summaries for this report) as measured by construction expenditures was as follows:

TABLE 5.

Des Plaines River Project	$ 811.24	
Calumet Project	8,617.23	
North Side Project	64,009.90	
West Side Project	426,920.23	
Southwest Side Project	2,449.20	
Miscellaneous Plants and Sewers	404.82	
Chicago River Controlling Works	1.92	$ 503,214.54

By adding the various items indicated in Table 5 to corresponding items in Table 3 and substracting them from corresponding items in Table 4, the status of the sewage treatment construction program on June 1, 1930 is as follows:

TABLE 6.

COMPLETED WORK AS OF JUNE 1, 1930.

Des Plaines River Project	$ 4,005,843.06	
Calumet Project	19,375,028.09	
North Side Project	35,889,832.75	
West Side Project	30,278,128.22	
Southwest Side Project	192,753.73	
Miscellaneous Plants and Sewers	521,060.20	
Chicago River Controlling Works	53,415.74	$ 90,316,061.79

TABLE 7.

FUTURE WORK AFTER JUNE 1, 1930.

Des Plaines River Project	$ 4,214,476.47	
Calumet Project	20,274,893.93	
North Side Project	5,964,678.68	
West Side Project	64,234,806.57	
Southwest Side Project	70,624,246.27	
Miscellaneous Plants and Sewers	9,981,537.80	
Chicago River Controlling Works	3,946,584.26	$179,241,224.04

SEWAGE TREATMENT.

The estimated population of The Sanitary District of Chicago for the year 1930 is 3,710,000. The industrial wastes in the Sanitary District are estimated as equivalent to the sewage of 1,732,000 additional persons, hence the total population and industrial wastes equivalent amount to 5,442,000. This includes the Corn Products wastes, equivalent to the sewage of 432,000 persons which wastes have been greatly reduced as a result of certain experimental work initiated by the Sanitary District.

The sewage treatment construction accomplished, in compliance with the March 3, 1925 permit from the Secretary of War, up to December 31, 1929, as reported to the United States District Engineer at Chicago, amounted to the equivalent (100 per cent) sewage treatment of 1,442,000 persons. This included an equivalent of 361,000 for the reduction accomplished on the Corn Products wastes and further included credit (as was agreed upon by the War Department in 1925) for construction accomplished on projects partially completed but not in actual service. For instance, the North Side Project was 96 per cent completed but actually operating to only 40 per cent capacity and the West Side Sedimentation Project was 48 per cent completed but not in operation. The total sewage treatment, referred to a basis of 100 per cent treatment on December 31, 1929 was 366,000 based on actual population treated to which the addition of 361,000 for the work at the Corn Products Plant gives a total equal to the 100 per cent treatment of the sewage of 727,000.

The 1930 total population and industrial wastes equivalent as above indicated are estimated as 5,442,000. Up

to date the Sanitary District has assumed that sewage treatment could produce an annual average of 85 per cent purification. Hence so-called complete treatment for the total 1930 population and industrial wastes equivalent would equal the 100 per cent treatment of the sewage of 4,625,700 which is 85 per cent of 5,442,000.

The expenditures for sewage treatment have been indicated in Tables 3, 5 and 6. The amounts of actual sewage treatment in operation on April 21, 1930 (the date of the decree of the Supreme Court) and at the present time are shown in Tables 8 and 9 following.

TABLE 8.

ACTUAL SEWAGE TREATMENT IN OPERATION AS OF APRIL 21, 1930.

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Des Plaines	55,000	85	47,000
Calumet			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	167,000	33⅓	56,000
North Side	344,000	85	292,000
West Side	000	33⅓	000
Miscellaneous (Morton Grove, Glenview, Northbrook)	5,000	85	4,000
Corn Products (Reduction)	432,000		361,000
TOTAL	1,018,000		773,000

TABLE 9.

ACTUAL SEWAGE TREATMENT IN OPERATION AS OF JUNE 24, 1930.

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Des Plaines	55,000	85	47,000
Calumet			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	167,000	33⅓	56,000
North Side	681,000	85	580,000
West Side (Sedimentation)	248,000	33⅓	83,000
Miscellaneous (Morton Grove, Glenview, Northbrook)	5,000	85	4,000
Corn Products (Reduction)	432,000		361,000
TOTAL	1,603,000		1,144,000

The figures for population used in the above tables are based on estimates made from the 1920 census. Official figures from the 1930 census are not yet available in sufficient detail for use.

The extent of the operation of sewage treatment plants at the present time is equal to the 100 per cent treatment of the sewage of 1,144,000 persons out of 4,625,700 which would be the present possible 100 per cent treatment if the sewage of total population and industrial wastes equivalent of 5,442,000 was being treated. This indicates the treatment of 24.8 per cent of the total sewage within the Sanitary District. On April 21, 1930 the treatment was 16.7 per cent of the total.

This operation of the sewage treatment facilities to the extent of relieving the Drainage Canal of 24.8 per cent or about one-fourth of its load, having been put into effect just recently, sufficient time has not elapsed to observe the improvement in the quality of the water in the Drainage Canal or in the rivers below. The operation of the treatment plants as of April 21, 1930, relieving the canal of 16.7 per cent or about one-sixth of its load, was accompanied by a reduction in flow in the Drainage Canal of about the same percentage, hence it is not possible at the present time to show any marked improvement in conditions in the Drainage Canal and the rivers below. The Permit of March 3, 1925 authorized a diversion of 8500 c.f.s. plus domestic pumpage which brought the authorized flow as of 1929 to about 10,200 c.f.s. (actual flow for 1929 being 9450 c.f.s.). The Permit of December 31, 1929 authorized a total flow of only 8500 c.f.s., which is a reduction of some 16 per cent from the amount allowed under the previous permit.

DIVERSION OF WATER.

The average annual diversion of water from Lake Michigan by The Sanitary District of Chicago for the past five and one-half years is indicated in the table following:

Year	Total Flow From Main Channel at Lockport C.F.S.	Inflow From Willow Springs Spillway C.F.S.	Domestic Pumpage Chicago Metropolitan Area C.F.S.	Net Diversion From Lake Michigan C.F.S.
1925.....	8278	0	1338	6940
1926.....	8283	15	1395	6873
1927.....	8450	5	1460	6985
1928.....	10010	45	1565	8400
1929.....	9450	70	1680	7700
1930..... (Jan. to May, incl.)	8495	0	1665	6830

The average monthly diversion of water from Lake Michigan by The Sanitary District of Chicago since January 1, 1930 is indicated in the table following:

Year	Total Flow From Main Channel at Lockport C.F.S.	Inflow From Willow Springs Spillway C.F.S.	Domestic Pumpage Chicago Metropolitan Area C.F.S.	Net Diversion From Lake Michigan C.F.S.
Jan. 1930	7745	0	1700	6045
Feb. 1930	7910	0	1685	6225
March 1930	8885	0	1640	7245
April 1930	9745	2	1650	8093
May 1930	8200	0	1650	6550
Average	8495	0	1665	6830

The diversion during the month of June 1930 is being made under the same conditions as the months of January to May, 1930, to comply with the provisions of the Permit of December 31, 1929. Some time is required to collect all the data required to compute the flow, conse-

quently the figures for June cannot be reported at this time. After July 1, 1930 the diversion will be made in compliance with the decree of the Supreme Court, which limits the net diversion to 6500 c.f.s. up to December 31, 1935.

Respectfully submitted,

THE SANITARY DISTRICT OF CHICAGO,

Howard W. Johnson
Its President.

Attest:

Harry E. Hoff
Clerk.

Edward J. Kelly
Its Chief Engineer.

Lucas E. Beach
Its Attorney.